



SMC Products for Fluid Control
Universal 2 port valves for various standard fluids



SMC - one supplier for all your needs. Being the worldwide leader in pneumatics, at SMC we take pride in being able to offer our customers an extensive range of high quality pneumatic products. Occasionally, however, automation requires non-pneumatic solutions. In this leaflet we present you our solutions for fluid control.

SMC – A company that supports you throughout the world. With sales offices in 78 countries and major manufacturing and warehouse facilities in Asia, the USA and Europe, plus local production capabilities, we can support our customers throughout the world.

We strive to provide you with tailor-made advice and pursue the perfect solution. This is driven by a network of 5800 sales engineers and 1400 R&D specialists. What's more, our commitment towards R&D and Innovation is certified by making to Forbes Most Innovative Companies List by for the third consecutive year.

SMC close to you with Fluid Control Solutions. SMC wants to be close to you and the entire compilation of fluid control solutions presented in this leaflet are fast delivery. Immediate shipping from our Central European Warehouse to you.

For all the above, USE SMC Fluid control valves.

UNIVERSAL



valve for various standard fluids

SPECIFIC



valves, optimized for specific fluids

EXPERT



valves for experts and specific applications

Fluid	Materials								Recommended models		
	Body					Seals			Direct Operated	Pilot Operated	Air Operated
	STAINLESS STEEL	BRASS/BRONZE	ALUMINIUM	PBT RESIN	PPS RESIN	NBR	FKM/FPM	EPDM/EPR			
Air		●	●	●	●	●			VX2, VDW	VXD, VXZ	VNB, VXB
Medium Vacuum		●				●	●		VX2, VDW		VNB, VXB
Ethyl Alcohol (2)	●	●					●	●	VX2	VXD, VXZ	VNB, VXB
Ethylene Glycol		●						●	VX2	VXD, VXZ	VNB, VXB
Caustic Soda (25%)	●							●	VX2	VXD, VXZ	VNB, VXB
Argon	●	●					●		VX2, VDW	VXD, VXZ	VNB, VXB
Helium		●					●		VX2, VDW	VXD, VXZ	VNB, VXB
Nitrogen Gas		●	●	●	●	●	●	●	VX2, VDW	VXD, VXZ	VNB, VXB
Carbon Dioxide		●				●		●	VX2, VDW	VXD, VXZ	VNB, VXB
Light Oil		●					●		VX2	VXD, VXZ	VNB, VXB
Silicone Oil (1)		●					●		VX2	VXD, VXZ	VNB, VXB
Brake Fluid		●						●	VX2	VXD, VXZ	VNB, VXB
Deionized water (DI)	●	●					●	●	VX2, VDW	VXD, VXZ	
Water		●			●	●			VX2, VDW	VXD, VXZ	VNB, VXB
Hot Water (up to 99°C)		●					●	●	VX2	VXD, VXZ	VNB, VXB
Coolants		●					●			SGC	SGCA
Steam	●	●					●	●	VX2	VXS	VND, VXB

● Recommended options, consult other combinations.

(1) Operating with solenoid valves, the kinematic viscosity must not exceed 50 mm²/s.

(2) Highly flammable fluids. When possible, use metal body and connect to an earth wire to avoid an accumulation of static electricity.

(The selection is a guide. Specific process conditions can render an initially valid option inadequate)

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Compact Direct Operated 2 Port Solenoid Valve for General Use Series VDW10/20

- Ultra compact 2 port valves for air, vacuum and fluids.
- Body materials: Aluminium, Resin, Brass and Stainless Steel.
- Piping variations: thread and one-touch fitting.
- Low weight.
- IP65 enclosure.
- Oil free option available.
- Fluid temperature 1 to 50°C (for water)
- Ambient temperature -10 to 50°C



Stocked items for fast delivery

Fluid	Part Number	Valve type	Max. operating P differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body/seal material	Voltage	Electrical entry
Air	VDW10AA	N.C.	0.9	0.04	0.03	1	M5	PPS resin/NBR	24 VDC	Grommet**
	VDW10EA						ø 4 mm			
	VDW20DA						ø 4 mm			
	VDW20GA						ø 6 mm			
VDW12GA	M5									
Water	VDW12HA		0.4	0.07	0.06	1.6	M5			
	VDW22NAA		0.7	0.07	0.06	1.6	G 1/8"			
	VDW22PAA		0.4	0.18	0.15	2.3	G 1/8"			
	VDW14HA		0.4*	0.07	0.06	1.6	M5			
Vacuum (Oil free)	VDW24WAA		0.2*	0.30	0.26	3.2	G 1/8"	Brass/FKM		
	VDW22UAM		0.7	0.07	0.06	1.6	G 1/8"	SUS/FKM (Oil free)		
DI Water/Gas	VDW22VAM		0.4	0.18	0.15	2.3	G 1/8"			

* Pressurized port 1. Used with vacuum: 0.1 Pa-abs to atmospheric pressure.

** Standard lead wire length: 300 mm

Stocked items could be subject to change without prior notice

Direct Operated 2 Port Solenoid Valve for General Use Series VX2

- Range of two port valves for air, medium vacuum and fluids.
- Body materials: Aluminium, Resin, Brass and Stainless steel.
- Piping variations: thread and one-touch fitting.
- Low power consumption & Low-noise construction.
- N.C., N.O. options.
- Oil free option available.
- Fluid temperature up to 60°C (high temperature version available)
- Ambient temperature -20 to 60°C



Stocked items for fast delivery

Fluid	Part Number	Valve type	Max. operating P differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body/seal material	Voltage	Electrical entry
Air	VX210HG	N.C.	1.0	0.23	0.20	2	ø 6 mm	PBT resin/NBR	24 VDC	DIN terminal (With surge voltage suppressor)
	VX210JG		0.6	0.35	0.30	3	ø 6 mm			
	VX210MG		0.6	0.41	0.35	3	ø 8 mm			
	VX220HG		1.0	0.47	0.40	4	ø 8 mm			
	VX230HG		1.0	0.70	0.60	5	ø 10 mm			
Water	VX212AGAXB		1.0	0.23	0.20	2	G 1/8"	Brass/NBR		
	VX212EGAXB		0.6	0.42	0.36	3	G 1/4"			
	VX222AGAXB		1.0	0.63	0.54	4	G 1/4"			
	VX232DAGAXB		1.0	0.75	0.64	5	G 3/8"			
Vacuum (Oil free)	VX214FAGAXB		0.2*	0.62	0.53	5	G 1/4"	Brass/FKM		
	VX224EAGAXB		0.15*	1.08	0.93	7	G 3/8"			
	VX234GGA		0.1*	2.21	1.90	10	G 1/2"			
DI Water/Gas	VX212HGKXB		1.0	0.23	0.20	2	G 1/8"	SUS/FKM (Oil free)		
	VX212MGKXB		0.6	0.42	0.36	3	G 1/4"			
	VX222HGKXB		1.0	0.63	0.54	4	G 1/4"			
	VX232LGKXB	1.0	0.75	0.64	5	G 3/8"				

* Pressurized port 1. Used with vacuum: 0.1 Pa-abs to atmospheric pressure.

Note) For other voltages replace **G** by **L** (230 VAC) or **Z1V** (24 VAC) in the part numbers above.

Stocked items could be subject to change without prior notice



For dimensions, other options and more details refer to <http://2portvalves.smc.eu>

Pilot Operated 2 Port Solenoid Valve for General Use Series VXD

- Body materials: Aluminium, Resin, Brass and Stainless steel.
- Piping variations: thread and one-touch fitting.
- Low-noise construction.
- Sizes from 1/4" to 1".
- N.C., N.O. options.
- Oil free option available.
- Fluid temperature up to 60°C (high temperature version available)
- Ambient temperature -20 to 60°C



Stocked items for fast delivery

Fluid	Part Number	Valve type	Min. operating P differential [MPa]	Max. operating P differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body/seal material	Voltage	Electrical entry
Air	VXD230D G	N.C.	0.02	0.7	1.3	1.12	10	ø 10 mm	PBT resin/NBR	24 VDC	DIN terminal (With surge voltage suppressor)
	VXD230F G			0.7	1.5	1.29	10	ø 12 mm			
Water	VXD232A GA			0.5	1.9	1.63	10	G 1/4"	Brass/NBR		
	VXD242G GA			1.0	4.5	3.86	15	G 3/8"			
	VXD242H GA			1.0	5.5	4.72	15	G 1/2"			
	VXD252L GA			1.0	9.5	8.15	20	G 3/4"			
	VXD262N GA			1.0	13.0	11.15	25	G 1"			
DI Water/ Gas	VXD232D GK			0.5	1.9	1.63	10	G 1/4"	SUS/FKM (Oil free)		
	VXD242J GK			1.0	4.5	3.86	15	G 3/8"			
	VXD242K GK			1.0	5.5	4.72	15	G 1/2"			
	VXD252M GK			1.0	9.5	8.15	20	G 3/4"			
	VXD262P GK			1.0	13.0	11.15	25	G 1"			

Note) For other voltages replace **G** by **L** (230 VAC) or **Z1V** (24 VAC) in the part numbers above.

Stocked items could be subject to change without prior notice

Zero Differential Pressure Type Pilot Operated 2 Port Solenoid Valve Series VXZ

- Body materials: Aluminium, Resin, Brass and Stainless steel.
- Piping variations: thread and one-touch fitting.
- Low-noise construction.
- Sizes from 1/4" to 1".
- N.C., N.O. options.
- Oil free option available.
- Fluid temperature up to 60°C (high temperature version available)
- Ambient temperature -20 to 60°C



Stocked items for fast delivery

Fluid	Part Number	Valve type	Min. operating P differential [MPa]	Max. operating P differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body/seal material	Voltage	Electrical entry
Air	VXZ230C G	N.C.	0	0.7	1.7	1.46	10	ø10 mm	PBT resin/NBR	24 VDC	DIN terminal (With surge voltage suppressor)
	VXZ230E G			0.7	2.0	1.72	10	ø12 mm			
Water	VXZ232A GA			0.7	1.9	1.63	10	G 1/4"	Brass/NBR		
	VXZ232B GA			0.7	2.4	2.06	10	G 3/8"			
	VXZ242F GA			0.7	5.3	4.55	15	G 1/2"			
	VXZ252H GA			1.0	9.2	7.89	20	G 3/4"			
	VXZ262K GA			1.0	10.2	8.75	25	G 1"			
DI Water/ Gas	VXZ232C GK			0.7	1.9	1.63	10	G 1/4"	SUS/FKM (Oil free)		
	VXZ232D GK			0.7	2.4	2.06	10	G 3/8"			
	VXZ242G GK			0.7	5.3	4.55	15	G 1/2"			
	VXZ252J GK			1.0	9.2	7.89	20	G 3/4"			
	VXZ262L GK			1.0	10.2	8.75	25	G 1"			

Note) For other voltages replace **G** by **L** (230 VAC) or **Z1V** (24 VAC) in the part numbers above.

Stocked items could be subject to change without prior notice

Air Operated 2 Port Valve for General Use Series VNB

- A wide variety of suitable fluids, due to body and seal options.
- Robust poppet construction.
- Sizes from 1/8" to 2".
- N.C., N.O., C.O. options.
- External pilot solenoid option.
- Fluid temperature up to 60°C (high temperature version available)
- Ambient temperature -5 to 60°C



Stocked items for fast delivery

Fluid	Part Number	Valve type	Max. operating P differential [MPa]	Cv	Kv [m³/h]	Orifice diameter [mm]	Port size	Body/seal material
General Use	EVNB104A-F8A	N.C.	1.0	1.1	0.94	7	G 1/4"	Bronze/NBR
	EVNB104A-F10A		1.0	1.1	0.94	7	G 3/8"	
	EVNB204A-F15A		1.0	2.6	2.23	11	G 1/2"	
	EVNB304A-F20A		1.0	5.4	4.63	14	G 3/4"	
	EVNB404A-F25A		1.0	7.0	6.01	16	G 1"	
	EVNB604A-F40A		1.0	19.0	16.30	28	G 1 1/2"	
	EVNB704A-F50A		1.0	29.0	24.88	33	G 2"	
	EVNB201A-F10A		0.5	4.0	3.43	15	G 3/8"	
	EVNB201A-F15A		0.5	4.8	4.12	15	G 1/2"	
	EVNB301A-F20A		0.5	7.4	6.35	20	G 3/4"	
	EVNB401A-F25A		0.5	12.0	10.30	25	G 1"	
	EVNB601A-F40A		0.5	28.0	24.02	40	G 1 1/2"	
	EVNB701A-F50A		0.5	43.0	36.89	50	G 2"	

Stocked items could be subject to change without prior notice

Coming soon!

Angle Seat Valve for General Use



Large flow rate

Cv: 5.6
(Port Size 1/2")

Compact

Height

94 mm
(Port Size 1/2")

Body material
Bronze, Stainless steel 316L



Seal Material
NBR,
FKM (for high temperature)

Valve type
N.C., N.O.

Pressure
Up to
1.6 MPa

Series VXB

For dimensions, other options and more details refer to <http://2portvalves.smc.eu>

Valves for Specific fluids

Air

Pilot Operated 2 Port Solenoid Valve for Dry Air Series VQ20/30

- High speed response, high frequency operation possible, and long operating life.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Resin	HNBR	N.C.	ø6 to ø12	VQ20: 3.4 VQ30: 4.8
AL				

2 Port Solenoid Valve for Dust Collector Series VXF2

- Wide range of piping options. Large orifice sizes and large discharge flow rate.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
AL	NBR	N.C.	3/4" to 4"	22 to 100

5.0 MPa Pilot Operated 2/3 Port Solenoid Valve Series VCH

- Low response time and long service life ideal for PET industry.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	NBR	N.C.	1/2" to 1"	16 to 18
AL				

2 Port Valve for Dust Collector (Air Operated) Series VXFA2

- Wide range of piping options. Large orifice sizes and large discharge flow rate.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
AL	NBR	N.C.	3/4" to 4"	22 to 100

Steam

Direct Operated 2 Port Solenoid Valve Series VX2

- Compact dimensions and low-noise construction.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	FKM	N.C.	1/8" to 1/2"	2 to 10
Stainless steel		N.O.		

Air Operated 2 Port Valve Series VND

- Air pilot operated robust poppet design. Temperatures up to 180°C.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	PTFE	N.C.	1/8" to 2"	7 to 50
Stainless steel		N.O.		

Pilot Operated 2-Port Solenoid Valve Series VXS

- Zero pressure differential operation. Compact and lightweight.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	FKM	N.C.	1/4" to 1"	10 to 25
Stainless steel		N.O.		

Angle Seat Valve Series VXB

- Compact angle seat valve up to 1.6 MPa.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	FKM	N.C.	3/8" to 3/4"	12 to 19
Stainless steel		N.O.		

Coolant

Air Operated / External Pilot Solenoid 2 Port Valve Series SGC

- Cutting oil, coolant for machine tool, etc. up to 1.6 MPa.



Valve type	Port size	Orifice dia. [mm]
N.C.	3/8" to 1"	9 to 25
N.O.		

Air Operated / External Pilot Solenoid 2/3 Port Valve for High Pressure Series SGH

- Coolant valve for high pressure coolant (up to 3 MPa/7 MPa) that is ideal for lubrication, dust blowing and cooling.



Valve type	Port size	Orifice dia. [mm]
N.C.	3/8" to 1"	7.1 to 15.8

Chemicals

Compact Direct Operated 2/3 Port Solenoid Valve Series LVM

- Meeting the most advanced needs of life science equipments and analyzers, thanks to minimal dead space and isolating separating diaphragm design.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
PFA	EPDM	N.C.	M6	1.1 to 2
PEEK	FKM	N.O.		
	FFKM			

Air Operated High Purity Chemical Valve Series LV

- Prevents micro-bubbles and low particle generation. Perfect for the most demanding industries as photovoltaic or electronic.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
PFA	NBR	N.C.	1/8" to 1"	2 to 22
PFS	EPDM	N.O.		
Stainless steel	PTFE			

For more information about these series please consult SMC

Valves for specific applications for Expert

Direct Operated 3 Port Solenoid Valve Series VX3

- For air, gas, vacuum, water, steam, oil. Ideal for pilot applications.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	NBR	N.C.	1/8" to 3/8"	1.5 to 4
Stainless Steel	FKM	N.O.		
Steel	EPDM/PTFE	C.O.		

Air Operated 2/3 Port Valve Series VXA

- For air, gas, vacuum, water, oil. Ideal for pilot applications and suitable to be used in narrow spaces due to its swivel actuator.



Model	Valve type	Port size	Orifice dia. [mm]
VXA21/22	N.C./N.O.	1/8" to 1/2"	3 to 10
VXA31/32	C.O.	1/8" to 3/8"	1.5 to 4

2 Port Solenoid Valve / Energy Saving Type Series VXE

- The power consumption (when holding) is substantially reduced (down to approx. 1/3 of standard valve's value). Coil heat reduction.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	NBR	N.C.	1/8" to 1"	2 to 25
Stainless Steel	FKM			
Steel	EPDM			

Air Operated / External Pilot Solenoid 2 Port Valve Series VNA

- For compressed air and air-hydro circuit control.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
AL	NBR	N.C.	1/8" to 1/2"	10 to 50
	FKM	N.O.		
	EPDM	C.O.		

2 Port Solenoid Valve with Built-in Y-strainer Series VXX

- Space saving and reduced piping labour for air, water, oil and steam.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	NBR	N.C./N.O.	1/8" to 3/8"	2 to 8
	FKM			
	EPDM/PTFE			

Pilot Operated 2 Port Solenoid Valve Series VXR

- Water hammer relief type for water and oil.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Bronze	NBR	N.C./N.O.	1/2" to 2"	20 to 50
	FKM			

Direct Operated 2 Port Solenoid Valve for High Pressure Series VX2

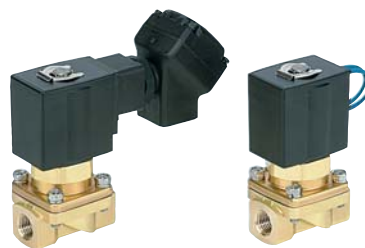
- For air, water and oil up to 3.0 MPa.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	NBR	N.C.	1/8" to 3/8"	1.2 to 4
Stainless Steel	FKM			
Steel	EPDM			

Pilot Operated 2 Port Solenoid Valve for High Pressure Series VXX

- For air, water and oil up to 2.0 MPa.



Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	NBR	N.C.	1/4" to 1/2"	10

Compact Proportional Solenoid Valve Series PVQ

- Control the flow rate smoothly according to the current. For air and inert gas.

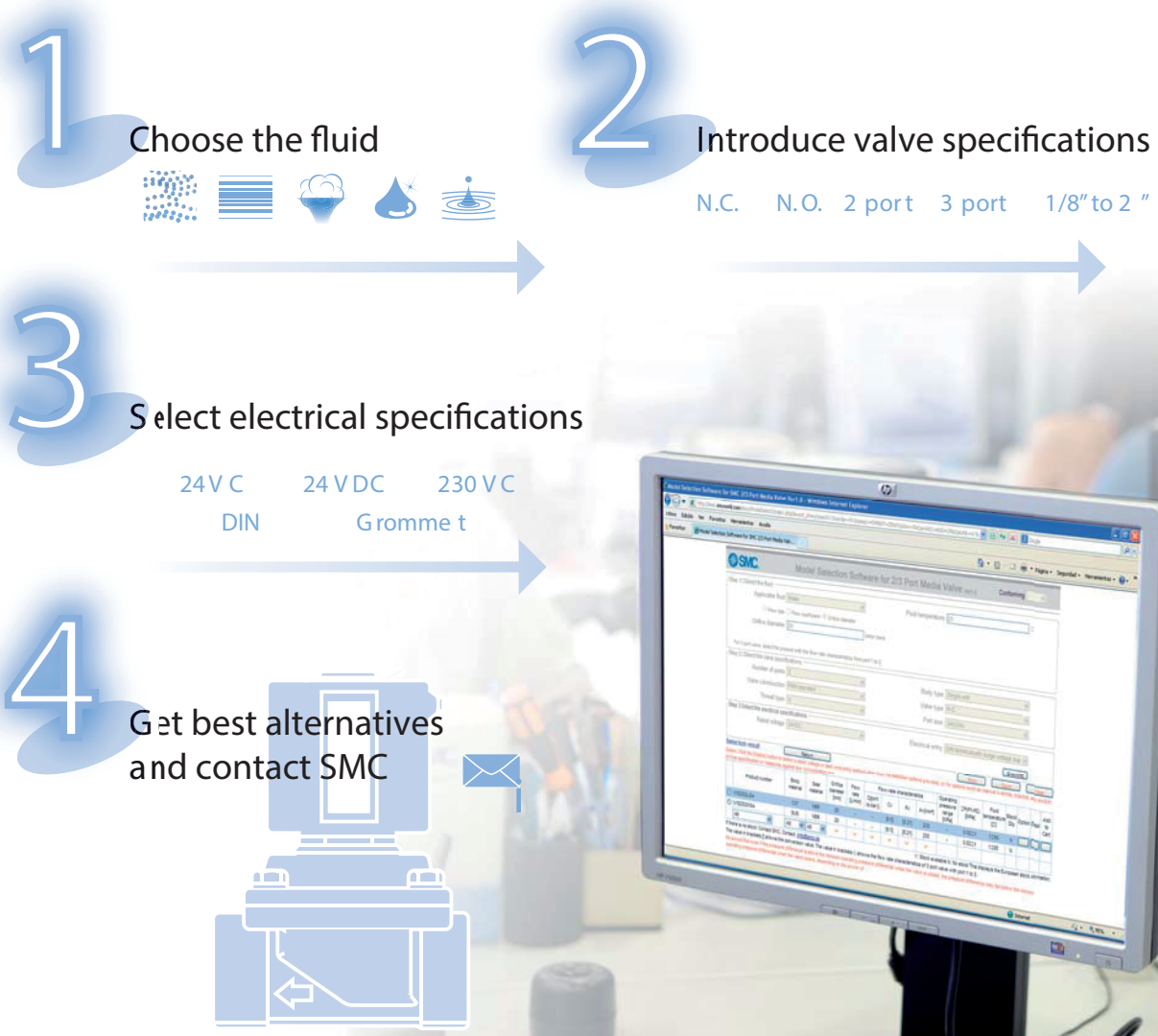


Material		Valve type	Port size	Orifice dia. [mm]
Body	Seal			
Brass	FKM	N.C.	M5 to 1/8"	0.3 to 4
Stainless Steel	FKM			
Steel	FKM			

For more information about these series please consult SMC



- Get your valve in only 4 simple steps using the 2 Port Valve selector at www.smc.eu:



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